IN THE CLAIMS:

Claims 1 to 8. (CANCELLED)

9.   (PREVIOUSLY PRESENTED) A method of performing cardiac surgery comprising applying to the heart, or to a portion thereof a non-excitatory stimulus of properties suitable to control the electro-mechanical activity of the tissue in the area on which surgery is to be performed, wherein said stimulus is inhibitory of a propagating action potential, and thereafter performing the required surgical procedure on said area.

10.   (PREVIOUSLY PRESENTED) A method of performing cardiovascular surgery comprising applying to the heart chamber or to a portion thereof a non-excitatory stimulus suitable to reduce the output flow, contractility, or pressure thereof, when surgery is performed on tissue perfused by the flow of said chamber, wherein said stimulus is unable to generate a propagating action potential, and thereafter performing the required surgical procedure on said area.

11.   (PREVIOUSLY PRESENTED) A method of reducing an output of a chamber of a heart, comprising applying to a portion of said heart chamber a non-excitatory stimulus suitable to obtain a desired change, wherein said stimulus is applied at a time at which it is unable to generate a propagating action potential, and wherein reducing the output of the chamber is obtained by reducing the reactivity of said portion, or its sensitivity, to an activation signal, or by reversibly blocking its conduction pathway.

12. (CURRENTLY AMENDED) A method of treating an abnormal activation of the heart, ~~particularly fibrillation,~~ comprising applying to said heart or to a portion thereof a non-excitatory stimulus suitable to treat the abnormal activation condition, wherein said <u>non-excitatory</u> stimulus <u>controls the electro-mechanical activity of the tissue in the area to which said stimulus is applied and</u> is unable to generate a propagating action potential.

13. (CURRENTLY AMENDED) Heart control apparatus, comprising circuitry for generating a non-excitatory stimulus, and stimulus application devices for applying to a heart or to a portion thereof said non-excitatory stimulus, wherein said circuitry for generating a non-excitatory stimulus generates a <u>non-excitatory</u> stimulus which <u>controls the electro-mechanical activity of the tissue in the area to which said stimulus is applied and</u> is unable to generate a propagating action potential.

14. (PREVIOUSLY PRESENTED) Apparatus according to claim 13, wherein the circuitry for generating a non-excitatory stimulus comprises circuitry for generating an electric field

15. (PREVIOUSLY PRESENTED) Apparatus according to claim 13 or 14, wherein the stimulus application device comprises one or more electrodes.

16. (PREVIOUSLY PRESENTED) Cardiac surgery aiding apparatus, comprising circuitry for generating a non-excitatory stimulus, and stimulus application apparatus for applying to a heart or to a portion thereof said non-excitatory stimulus, wherein said circuitry for generating a non-excitatory stimulus generates a stimulus suitable to control the electro-mechanical activity of the tissue in the area on which surgery is to be performed, and wherein said stimulus is unable to generate a propagating action potential.

17.   (PREVIOUSLY PRESENTED) Cardiovascular surgery aiding apparatus, comprising circuitry for generating a non-excitatory stimulus, and stimulus application apparatus for applying to a heart chamber or to a portion thereof said non-excitatory stimulus, wherein said circuitry for generating a non-excitatory stimulus generates a stimulus suitable to reduce the output flow, contractility, or pressure of said chamber, when surgery is performed on tissue perfused by the flow of said chamber, and wherein said stimulus is unable to generate a propagating action potential, and thereafter performing the required surgical procedure on said area.

18.   (NEW) A method of claim 12, wherein the abnormal activation treated is fibrillation.